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Effect of FDI and Some Macroeconomic Indicators on Exports in Jordan 1990-2010

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Abstract: *Developing countries has not enough resources to finance the investments needs. FDI through the right investments climate is one way to cover the deficit. However, this is not enough in the process of economic development without economic reform policies. There are many factors affecting foreign direct investments, including elements of the macroeconomic factors and attract investments then impact on foreign trade. This paper is trying to highlight briefly on each of the exports and both of FDI and some macroeconomic indicators which are gross product domestic, interest rate, and openness trade. In additional to a statement their relationships for a period of study over 1990 through 2010 in Jordan using time series date analysis. I used the simple ordinary least square (OLS) regressions and the empirical analysis is conducted by using annual data on FDI and other variables over the periods 1990 to 2010. The panel data estimation confirms the negative role of FDI inflows in exports. In additional there are a positive role for both of GDP, interest rate, and openness of trade in exports.*
Keywords: *FDI inflows; export; GDP; openness trade; interest rate.*

I. Introduction

Foreign direct investments are forms of international capital movement. They play a more and more pivotal role in the global economy, over the past two decades or so FDI has also become a prominent feature of the transition economies (Yuhua Yan, 2008).

Economic theory has identified a number of channels through which FDI inflows maybe beneficial for economic development of a country, depending on the volume and quality of investment. It is considered that the overall impact of FDI is positive if attracted by comparative advantage of a country while the role of rent seeking FDI is detrimental to growth and development. But, in economics, the positive role of FDI acquired the status of axiomatic truth, where FDI is considered as a panacea for all the economic problems. As a resultant, FDI received great attention from economists where they analyzed the role of FDI from various aspects.

However there is an extensive literature on the impact of FDI on trade. Theoretical studies have shown that the relationship between the trade and investments are of disparate impact. In some cases, the relationship maybe positive (complementary) and in other is a negative (Substitutes) relationship. The degree of integration between trade and investments remains an empirical question. The nature of the relationship depends to a large extent on the nature of the economy and the nature of foreign direct investments and, it differs from one country to another. From these studies Aizenman and Noy (2005) study, shows that FDI and trade of 81 countries for the years 1982–1998, show results presented in this paper are consistent with the notion that the feedback effects between trade and FDI are stronger in developing than in industrialized countries. This is in line with the guess that the bulk of the FDI to developing countries has been vertical.

Study of Arshad, Muhammad (2012) confirms the negative relationship between the FDI and export. In his, study Impact of Foreign Direct Investments on Trade and Economic Growth of Pakistan: A Co-integration Analysis 1965-2005. He finds that Both Exports and FDI do not cause each other; it means that case of Pakistan FDI is not playing an important role.

Hasant Shah, He Bin and Li Junjiang (2011), confirmed in a study about the Causality and Economic impact of FDI inflows from Trade partners in Pakistan 1981-2010. That the role of FDI inflows is insignificant in exports and imports. However, the dissection of trade partners FDI shows that the sporadic and concentrated FDI inflows adversely affect exports and increase imports.

Therefore, the impact of FDI inflow in developing countries is still not clear and depends on the flow and motive behind such investment.

Jordan is from developing countries, which form the last decade of the twentieth century a crucial turning point in the process of its economy, was a period of radical changes. Especially after its economic crisis in 1988, has overshadowed economic concerns at the expense of other priorities, and the results were beginning to enter into the stage of international agreements with the Fund Monetary and the World Bank to adopt

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comprehensive programs of economic stabilization. In addition to structural reform aimed at reducing the budget deficit and the removal of subsidies on basic goods and services, and the gradual restructuring of the economy, to become more open to the outside, especially in the fields of trade and investment. In order to open a comprehensive economic, Jordanian government has a series of actions, and policies that would restructure the mechanism of the Jordanian economy and opening up and liberalization within the policy of a market economy.
Jordan several comparative advantages to help him overcome the problems facing career development and support their competitiveness, including the presence of a strong infrastructure, a vibrant private sector, institutional and legislative framework is strong, and, as a result, improved the investment environment in Jordan.
It could be argued that the volume of foreign direct investment (FDI) flows are low and modest in comparison with the efforts made to encourage and stimulate the investment and the procedures and steps to fix a lot of effort, and a set of restrictions that can be summarized as follows;

1. The small size of the domestic market and low income levels and thus reduce the absorptive capacity has in contrast tax incentives, linking the investment process while creating the project supposed to be linked to the process of investment tax incentives for export.
2. Continues to suffer from the investment process and the multiplicity of bureaucratic registration procedures, in addition, to the weak linkages, front and rear of the productivity of local projects.

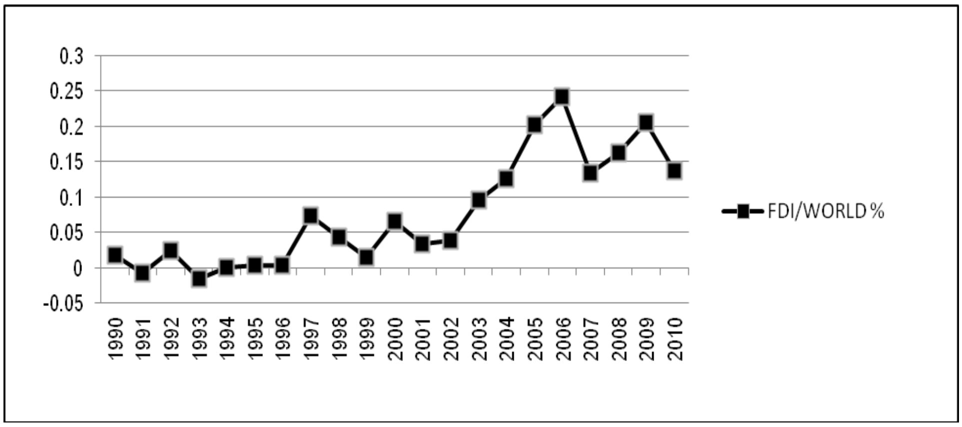
The low private sector participation in the development of multi- dimensional strategies to attract investment compared with the role of the public sector. As the incentives granted to encourage investment limited to investment projects in size more than (50) thousand dinars at the expense of investments, small size, with the knowledge that the number of these small projects large and contribute effectively in the process of production and employment may be more than large enterprises.

Based on the foregoing, the Jordanian government to take several measures to increase focus on less developed regions, and give more incentives to projects working to increase employment opportunities and the development of these areas. In addition to that, the creation of attractive investment climate not limited to the application of the privatization process, but must find sector, particularly strong in light of the public sector share together on economic development.
Must also work to provide a network-date information and effectively through the latest technologies in the areas of investment.

As well as work on coordination between the agreements signed by Jordan with the outside world, whether bilateral or multilateral agreements in order to create a situation of competition between the funds invested in the free zones so as not to intersect the agreements with them and threaten the interests of each other and this reflected negatively on the economy of Jordan.
Witnessed the flow of foreign direct investment and a clear fluctuation during the period of research, where he was in 1990 $ 38 million transformation of this flow to a negative value of $ -12 million in the following year and by a negative annual growth amounted to - 131.6 per cent.
This is of course an inevitable consequence of what the region witnessed the events in Iraq following the invasion of Kuwait, and this is what observed also with Egypt.
In the following year, the value of foreign investment rose to $ 41 million, and returned the following year in 1993 with a negative value of $ 34 million and an annual growth rate - 182.9 per cent, in 1994 returned to the foreign investment flows to achieve a positive value amounted to $ 3 million.
After a period where the Jordanian economy received minimal inflows of direct foreign investment, 1997 proved to be a turning point where inflows jumped from a low $ 16 million to $ 361 million.
This coincides with the agreement on qualified industrial zones (QIZ) signed between Jordan, Israel, and the US, FDI inflows then Subsided down to $ 156 million in 1999, before exploding to $ 913 million in 2000, it is necessary to note that this significant increase.

However, was mainly due to a single transaction; the sale of a 40 per cent stake in telecom Corp. Jordan to a French telecom for the value of $ 508 million (Ammar Kawash, 2010).
The FDI continued to achieve positive value and an increase in the volume of FDI flows for the years following, as $ 937 million in 2004 with an annual growth of 71.3 per cent.
Continued to increase to up to $ 3544 million in 2006, the highest level verified during the period of Search and rate of annual growth of 78.6 per cent. To 2010, foreign investment amounted to $ 1704 million, an annual growth rate of negative - 29.9 percent. The ratio of foreign direct investment in Jordan of the total international investments, was 0.018 per cent in 1990, fell to 0.004 per cent in 1995. In 2000 the rate was 0.065 per cent and 0.202 per cent in 2005, in 2006 the highest percentage achieved a 0.242 per cent, in 2010 the rate was 0.137 per cent. Figure1.

Figur1. Proportion of Foreign Investment in Jordan from the International Investment Value **%**



Source: prepared by the author according to UNCTAD statics.

II. Foreign direct investment and gross domestic product (GDP)

Real GDP has varied during the period of research, in 1990 the volume of GDP $ 4020 million, increased to $ 4193 million in 1991 despite the first Gulf War. In 1992, the volume of GDP $ 5310 million, increased to $ 12,588 million in 2005 and to $ 27,573 million in 2010 Ranged GDP growth between -0.27 per cent and 6.19 per cent between the years 1990-1995.

In 1993 scored the highest growth rate verified in GDP of 14.4 per cent compared with other years in question. " In 2000 the growth rate was 4.2 per cent. In 2005, 8.15 per cent, while in 2010, the growth rate was 3.09 the percentage of foreign investment to GDP by 0.94 per cent in 1990, and recorded a negative value amounted to -0.28 per cent in the following year. In 1995, the rate was 0.2 per cent. In 2000 was 10.79 per cent, in 2005 the rate was 15.76 per cent, in 2010 the rate was 6.19 per cent.

Table1. Some indicators of gross domestic product in Jordan 1990-2010

Years	GDP Million $	FDI/ GDP %	GDP Growth %
1990	4020.267	0.94	0.27-
1991	4193.336	-0.28	1.61
1992	5310.833	0.77	14.4
1993	5605.775	0.60-	4.48
1994	6237.267	0.05	4.99
1995	6727.454	0.20	6.19
1996	6928.49	0.22	2.08
1997	7248.048	4.98	3.31
1998	7914.118	3.92	3.01
1999	8151.541	1.92	3.39
2000	8463.892	10.79	4.25
2001	8980.439	3.05	5.27
2002	9584.232	2.49	5.78
2003	10197.756	5.36	4.16
2004	11411.39	8.21	8.57
2005	12588.665	15.76	8.15
2006	15645.466	24.21	7.92
2007	17765.381	15.42	8.49
2008	22696.9	12.46	7.61
2009	25092.339	9.68	2.33
2010	27573.536	6.19	3.09

Source: prepared by the author according to UNCTAD statics.

III. Foreign Trade in Jordan 1990-2010

Occupies the export sector, a prominent place and head in the process of economic development, especially in developing countries, including Jordan, in the back by foreign currencies effectively contribute to increasing the national income, which works to raise the standard of living and economic prosperity of the individual and the collective.

Also, help to drive development comprehensive economic, and contributes to export directly in the development through numerous channels, including increased national savings, and contribute to the growth of GDP and balance of payments support.

As well as the development of production capacity in investment projects, and structural change of the national economies as it pushes the productive sectors towards the development and growth (Fathi Abdullah al-Shara, 2011)

Jordan has taken significant steps in the area of structural reform and meets the requirements of globalization of the economy and opening up to foreign markets.

Where taken Jordan in recent years a wide range of policies and reform measures included various fields and sectors of the economy.

Has aimed such efforts at rehabilitating the Jordanian economy and protect it against external shocks as well as improve its ability, competitive in a global economy open to trade and capital flows and through attracting local and foreign investments

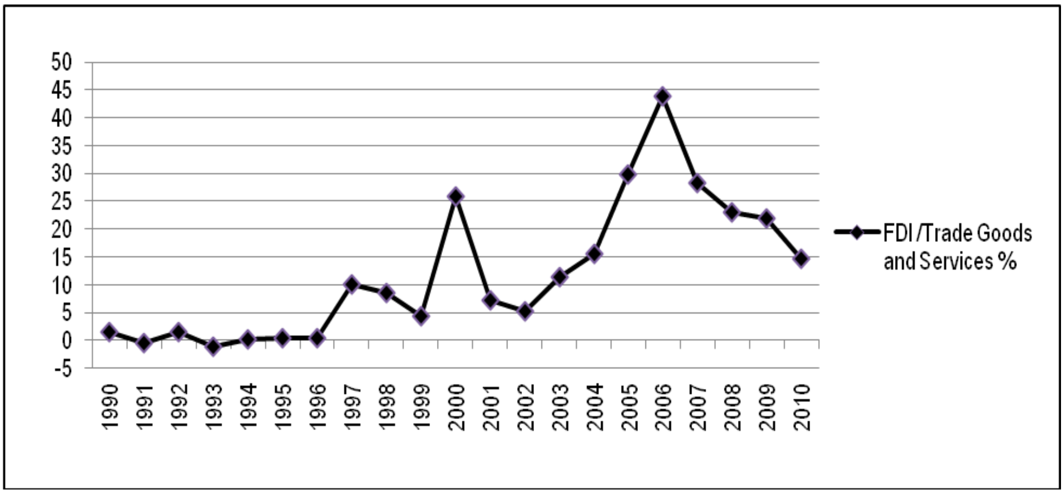
Table2. Top Ten Commodities and Markets with Jordan 2010
Value: $ Million

Total Exports (Million US$)	5,936
USA	924
Iraq	911
India	781
KSA	628
UEA	253
Syria	238
Lebanon	195
Indonesia	149
Algeria	125
Egypt	124

Source: The Jordan Investment Board

In 1990 recorded the ratio of foreign direct investment to total trade goods and service volume of 1.5 per cent. After the second Gulf War the ratio of a negative value in 1991 where it was -0.48 per cent, returned to rise to 1.53 per cent in 1992, in 1995 the ratio was 0.38 per cent, and in 2000 recorded a remarkable increase in the ratio stood at 25.81 per cent, this figure rose further in 2005, reaching 29.91 per cent, and in 2010 reached 14.73 per cent. Figure 2

Figure2. The ratio of foreign direct investment to total trade goods and service volume in Jordan.1990-2010 Value: %

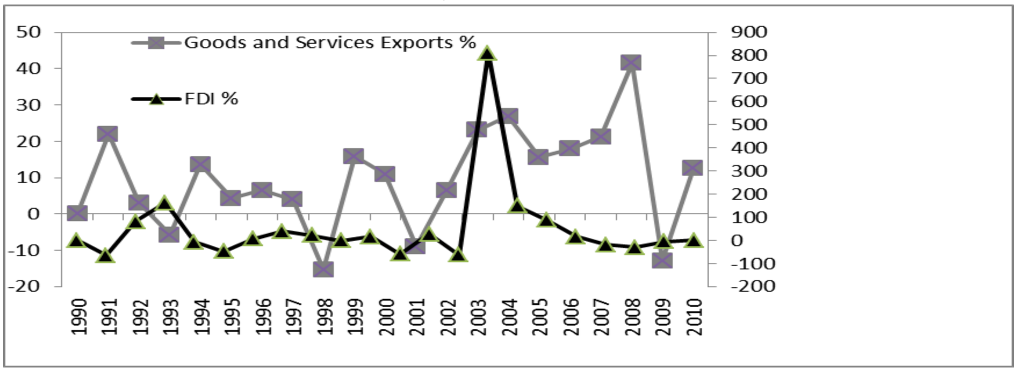


Source: prepared by the author according to UNCTAD statics.

During the research period, in 1990 the volume of export of goods and services $ 2511 million and the volume of imports of goods and services $ 3660 million. Declined in the year subsequent to $ 2481 million exports, and by an annual growth it was negative - 1.2 percent and $ 3430 million volumes of imports attributed a negative annual growth amounted to - 6.3 per cent. In 1995 exports amounted to $ 3479 million and an annual growth rate of 16.5 per cent, and imports $ 5017 million and a growth rate of 11.4per cent. To 2000, exports amounted to $ 3539 million, and the growth rate of 0.1 per cent and imports $ 5951 million with an annual growth of 16.3 per cent.

In 2005, the volume of exports $ 6635 million with an annual growth of 10.7 per cent, and imports $ 12208 the volume of foreign trade in goods and services, a remarkable increase was $ 12184 million in the exports by an annual growth of 9.9 per cent and $ 18149 million in imports rose by an annual growth of 5.6 per cent. Commodity exports in 1990 were $ 1064 million, and in 1995 reached $ 1769 million, and in 2000 made $ 1899 million, later increased to $ 4302 in 2005, later increased to $ 7023 million in 2010. While the imports of goods $ 2600 in 1990, and $ 3698 in 1995, in 2000 imports of goods to Jordan $ 4597 million, increased imports to $ 10506 in 2005, in 2010 the volume of imports of goods $ 15085 million. According to UN statistics the average annual growth rates of the value of goods exports and imports for the period 1990-2010 in Jordan 10.68 percent.

Figure3. Exports and imports of goods in Jordan, 1990-2010
Value: $ Million



Source: prepared by the author according to UNCTAD statics.

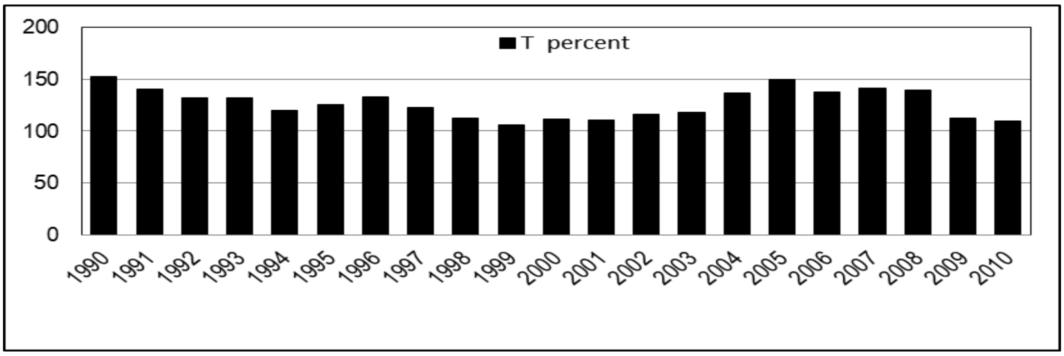
The trade balance of goods and services, negative values during the period of research, as it achieved in 1990, -0.186, -0.181, and in 1995, in 2000 the proportion of the deficit in trade balance -0.254, and -0.296 in 2005, in 2010 the proportion of the trade balance deficit of Jordan -0.197.

IV. Openness Trade in Jordan

The economic opening to the outside world in all it is the dimensions main pillars of economic policy in Jordanian. That's the opening of the Jordanian economy to the world everything provided that the privileges and the dictates of the benefits converts from an earlier stage characterized by the protection and government support and rely on the feature relative to the phase current based on economic liberalization and increasing productivity.

The application of the strategy of integration with the global economy and to overcome the obstacle narrow domestic market, in order to attract foreign investment and improve the ability of local companies to access international markets. The taxes one of the ways which are seeking to achieve; manufacturing scale, the safety of the environment, raising the entrances of personal, increase of public revenues, and stimulate investments(Walhei Boualem, 2011). The Jordanian government adopted since 1989, an ambitious program to reform the system of trade and the removal of restrictions to the movement of capital and foreign direct investment.

Figure4. Openness of Trade in Jordan 1990-2010 Value: %



Source: prepared by the author according to Joint Arab Economic reports 2009, 2001.

The program which, forms an integral part of the program of structural adjustment, are crucial steps to liberalize foreign trade culminated in the arrangements to join the international, regional and bilateral, most notably;

Jordan Association Agreement, the Euro-Mediterranean (2002),
Free trade agreement Jordanian-American (2001),
Convention on the accession to the WTO (2000),
Trade Area of the Greater Arab Free (1998),
Arrangements for the establishment of Qualified Industrial Zones (1996),

The common feature of these agreements is to seek to reduce tariffs to a minimum (within the WTO Agreement), or abolish it altogether (among other conventions). Also to affect a variety of issues such as liberalizing the services sector and the movement of capital and intellectual property protection and preservation of the environment and workers' rights. This will provide the benefits of trade agreements, access to international markets in general and the U.S. and European markets and the Arab World in particular as well as gains attract more foreign investment, technology transfer and promotion of domestic competition. Benefits commensurate force direct proportion with the improvement of competitiveness and export of domestic firms and the ability of the Jordanian economy to deal with non-tariff barriers in international markets (like the specifications and rules of origin).

In contrast, these agreements restrict the possibilities of government intervention to support domestic production, which can be offered to domestic production and, strong direct, competition in certain industries.

The agreements include those provisions to protect Jordan's balance of payments with respect to any severe difficulties and exceptional, as well as measures to protect domestic production from unfair competition such as imports, which aims to flood the market or subsidized in the country of origin.

The government sought to protect domestic investment in the activities and their national specific considerations (such as retail and wholesale trade, engineering services, and maritime transport services) by restricting the proportion of foreign ownership ceiling of a project in the capital of any of these activities.

The convening of the conventions may request referred to the Jordan to adopt legislative and regulatory reforms, institutional and large in various sectors. Has been developed a package of laws consistent with the trade agreements signed, in order to protect intellectual property rights and the organization of international and domestic trade as law "patent" and the law of "trade secrets and unfair competition," and laws "to protect national production" and "Import and Export" and "competition "and" electronic transactions ".

The creation of the government amendments to the long list of other laws to conform to the requirements of the current stage, including laws encouraging investment and companies, banks and customs

V. Data and Methodology

This section describes the econometrics methods that use to access the relationship between Export, FDI and some macroeconomic factors. By used the simple ordinary least square (OLS) regressions and the empirical analysis is conducted by using annual data on Export, FDI and other variables over the periods 1990 to 2010. The annual data use from different sources such as; UNCTAD Statistics tables published by United Nation; Joint Arab Economic reports; Jordan Investment Board statistics to find out the relationship between Export, FDI, GDP, R and T in the case of Jordan.

5.1. Model Specification and Estimation

OLS framework

Export = $\alpha + \beta$ 1 FDI + β GDP - β3R+ β3T+ ε …. (1)

Where:

Dependent variable is = Export

Explanatory variables are:

β= Coefficients of the Independent variables
ε = Time period

FDI= Foreign direct investment
GDP= Gross domestic product
R= Interest rate
T= Openness of Trade

Hypotheses

Hypothesis 1: $\frac{\partial \text{Export}}{\partial \text{FDI}} > 0$

Hypothesis 2: $\frac{\partial \text{Export}}{\partial \text{T}} > 0$

Hypothesis 3: $\frac{\partial \text{Export}}{\partial \text{GDP}} > 0$

This study expects that FDI, GDP, and Openness trade (T) should have a positive effect on the Export.

Hypothesis 4: $\frac{\partial \text{Export}}{\partial \text{R}} < 0$

Interest rate (R) should have a negative effect on the export according to this study.
On the other hand, it applies the diagnostic testing to test the series whether the series are free from autocorrelation.

5.2 Empirical Results and Discussions

The focus of this study is to determine the relationship between Export, FDI and some macroeconomic factors in Jordanians economy. The main objective of this research is to ascertain whether there is a positive or negative impact of FDI, GDP, R and T on exports in the case of Jordan.

Table3. Method of Least Squares

Variable	Coefficient	Std. Error	t-Statistic	P-value
Constant	-4569.1	430.048	-10.625	0.000
FDI	-0.201	0.074	-2.696	0.017
GDO	0.569	0.017	34.19	0.000
R	44.19	19.085	2.316	0.036
T	29.68	2.723	10.898	0.000

R-squared	0.998
Adjusted-squared	0.997
S.E of regression	137.543
Sum squared residual	264853.394
Durbin-Watson stat	2.325
F-statistic	1634.350
Sig F-change statistic	0.000

R-square has a limit value close of 1, and it happens when the regression line fits the observations exactly. The overall fit of the estimated regression equation to the actual data will be "better" if R-square is closer to the value of 1. In this research paper, total 99.8 % variation in the dependent variable as shown in table3 is explained by the explanatory variables. However, the rest of the variation is due to factors other than the independent variables or residuals. The validity of the model is represented in the value F-statistics. F-statistic is a measure of total explained variation divided by total unexplained variation.
The higher the F-statistic, the better the overall fit of the regression line through the actual data. Since the p-value is less than 5 percent, we can conclude that all the independent variables here (FDI, GDP, R, T) can jointly explain or influence export.
From the multiple regression models drawn from table3 the coefficients of the independent variables are written in the form:

Export= -4569.106 - 0.201FDI + 0.569GDP + 44.196R + 29.680T …. (2)

The correlation between Export and GDP is positive because as export is increasing the GDP. As well the Openness trade liberalisation emerges as a positive determinant of export performance. This is confirms to the hypothesiss2, 4.
The correlation between Export and FDI reject our hypothesis1 and show that there is a positive relationship between them.
Our hypothesis3 failing affirms that Interest rate is negatively correlated to FDI.
The independent variable significance can be drawn from the p-value of the t-test of the various independent variables. For each independent variable to be significant to this study, then its p-value of the t-statistic must be

less than 0.05 or 5 percent. From this we can conclude that the independent variable FDI, GDP, R, and T are all significant to explain FDI. Since their corresponding p-values of the t-statistic are less than 5 percent and thus have an influence of Export in Jordan, despite that the failure two of our hypothesis.

VI. Conclusions

As a conclusion, Jordan has a range of ingredients that help to attract foreign investment. Through the empirical result, the analysis shows that there is a positive relationship between the export and GDP, and openness trade. In additional there is a negative relationship between the export and both of FDI, and interest rate. The robustness of the result has been tested using FDI, GDP, openness trade and, interest rate as dependent variables. These findings have important policy implication where the government has to be concerned with the importance of the export contribution to economic growth. Economic development of a country can be achieved by encouraging more foreign direct investment, which it can help to create more employment in the country. FDI through the right investments climate is one way to develop the exports. there is a different relationship in direction and volume “between” FDI and foreign trade sometimes be positive and other times negative, and the nature of this relationship depends on many factors: size and the structure of the economy, the sectorial distribution of exports and imports and, the goal and directed of foreign direct investments. Naturally these factors are different between countries. This is can be the reason that FDI is a negatively effect on export in the case of Jordan. It is important that the Jordanian government seeking to economic reform policies to aimed at increasing exports.

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